

means for introducing a separation gas between each of said plurality of samples in said fluid flow stream; and

means for selectively analyzing each of said plurality of samples for said particles in a flow cytometer, wherein a portion of said fluid flow stream passing through said peristaltic pump is contained within tube having an internal diameter of 0.02 inches or less.

2. (Amended) The flow cytometry apparatus of claim 1, wherein said means for moving said plurality of samples further comprises an autosampler.

3. The flow cytometry apparatus of claim 2, wherein said autosampler includes a probe and said flow cytometry apparatus includes a means for exposing a probe tip of said probe to a jet of gas to remove liquid from said probe tip.

4. The flow cytometry apparatus of claim 2, wherein said autosampler includes a probe having a conical tip.

5. The flow cytometry apparatus of claim 2, wherein said autosampler includes a hydrophobic probe.

6. The flow cytometry apparatus of claim 5, wherein said probe comprises a hydrophobic material.

7. The flow cytometry apparatus of claim 5, wherein said probe is coated with a hydrophobic material.

9. (Amended) The flow cytometry apparatus of claim 1, wherein said tube comprises a high speed multi-sample tube.

10. (Amended) The flow cytometry apparatus of claim 1, wherein said peristaltic pump is located along said fluid flow stream between said autosampler and said means for selectively analyzing said plurality of samples.

11. The flow cytometry apparatus of claim 10, further comprising a single length of tubing extending from said autosampler to said means for selectively analyzing said plurality of samples.

12. (Amended) The flow cytometry apparatus of claim 11, wherein said single length of tubing comprises a high speed multi-sample tube.

13. (Twice Amended) The flow cytometry apparatus of claim 1, wherein said high speed multi-sample tube comprises a poly vinyl chloride tube.

14. (Twice Amended) The flow cytometry apparatus of claim 1, wherein said high speed multi-sample tube comprises a poly vinyl chloride tube having an inner diameter about 0.02 inches and a wall thickness of about 0.02 inches.

15. The flow cytometry apparatus of claim 1, wherein said separation gas comprises air.

16. The flow cytometry apparatus of claim 1, wherein said plurality of samples are homogenous.

17. The flow cytometry apparatus of claim 1, wherein said plurality of samples are heterogeneous.

18. The flow cytometry apparatus of claim 1, wherein said particles comprise biomaterials.

19. The flow cytometry apparatus of claim 18, wherein said biomaterials are fluorescently tagged.

20. The flow cytometry apparatus of claim 1, further comprising a well plate including said plurality of respective source wells.

21. The flow cytometry apparatus of claim 20, wherein said well plate includes at least 96 source wells.

22. The flow cytometry apparatus of claim 20, wherein said well plate includes at least 384 source wells.

23. The flow cytometry apparatus of claim 20, wherein said well plate includes at least 1536 source wells.

24. The flow cytometry apparatus of claim 20, wherein said well plate includes wells having a conical shape.

25. The flow cytometry apparatus of claim 20, wherein said well plate is mounted in an inverted position.

26. The flow cytometry apparatus of claim 1, further comprising a means for injecting a buffer fluid between adjacent samples in said fluid flow stream.

27. The flow cytometry apparatus of claim 1, wherein at least one of said plurality of samples includes a drug present therein.